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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,237	07/12/2004	Stephane Phelep	0510-1100	5317

466 7590 10/27/2006

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EXAMINER

BERGIN, JAMES S

ART UNIT

PAPER NUMBER

3641

DATE MAILED: 10/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/501,237	<b>Applicant(s)</b> PHELEP ET AL.	
	<b>Examiner</b> James S. Bergin	<b>Art Unit</b> 3641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2004.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 July 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>7/12/2004</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Oath/Declaration***

1. The oath or declaration filed 7/12/2004 is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because: it is written in the French language and therefore the text cannot be readily understood.

### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: at least numerals 1 and 6. This is not intended as a complete listing of the numerals missing from the drawings. All the numerals listed in the specification must be shown in the figures. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 7, "forming a content" is not understood. Does "content" mean an enclosure of some kind?

In claim 1, lines 11-12, it is unclear to which sub-assembly, the limitation "*said sub-assembly*" refers? Does it refer to the "*first sub-assembly*" or to the "*second plastic sub-assembly*"?

In claim 1, line 13, it is not understood in what sense the second sub-assembly (3) can be interpreted as forming a socket? It appears to form a plug like element (3) rather than a socket whereas the first sub-assembly (2) appears to form a socket type enclosure.

In claim 11, it is not understood how the vacuum height  $h'$  is smaller than the height  $h + H$ . With particular reference to figures 1 and 2, it would appear that the vacuum height  $h'$ , as defined in claim 11, is equal to the height  $h + H$  at least at some points of measure. In claim 11, line 7, the limitation, "*the content*" is indefinite for the same reason as recited above with regard to its occurrence in claim 1, line 7.

In claim 14, lines 3-4, the meaning of the limitation, "*the realization of a first-subassembly and of a second sub-assembly according to claim 1*" is not fully understood. Is that applicant attempting to include in the method claim 14, all the claimed details of the initiator of claim 1, or just a subset of the claimed details of claim

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1? Are the electric bridge, the two pins, the face being hollowed out symmetrically, the relationship between D1 and D2 etc. included in method claim 14?

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

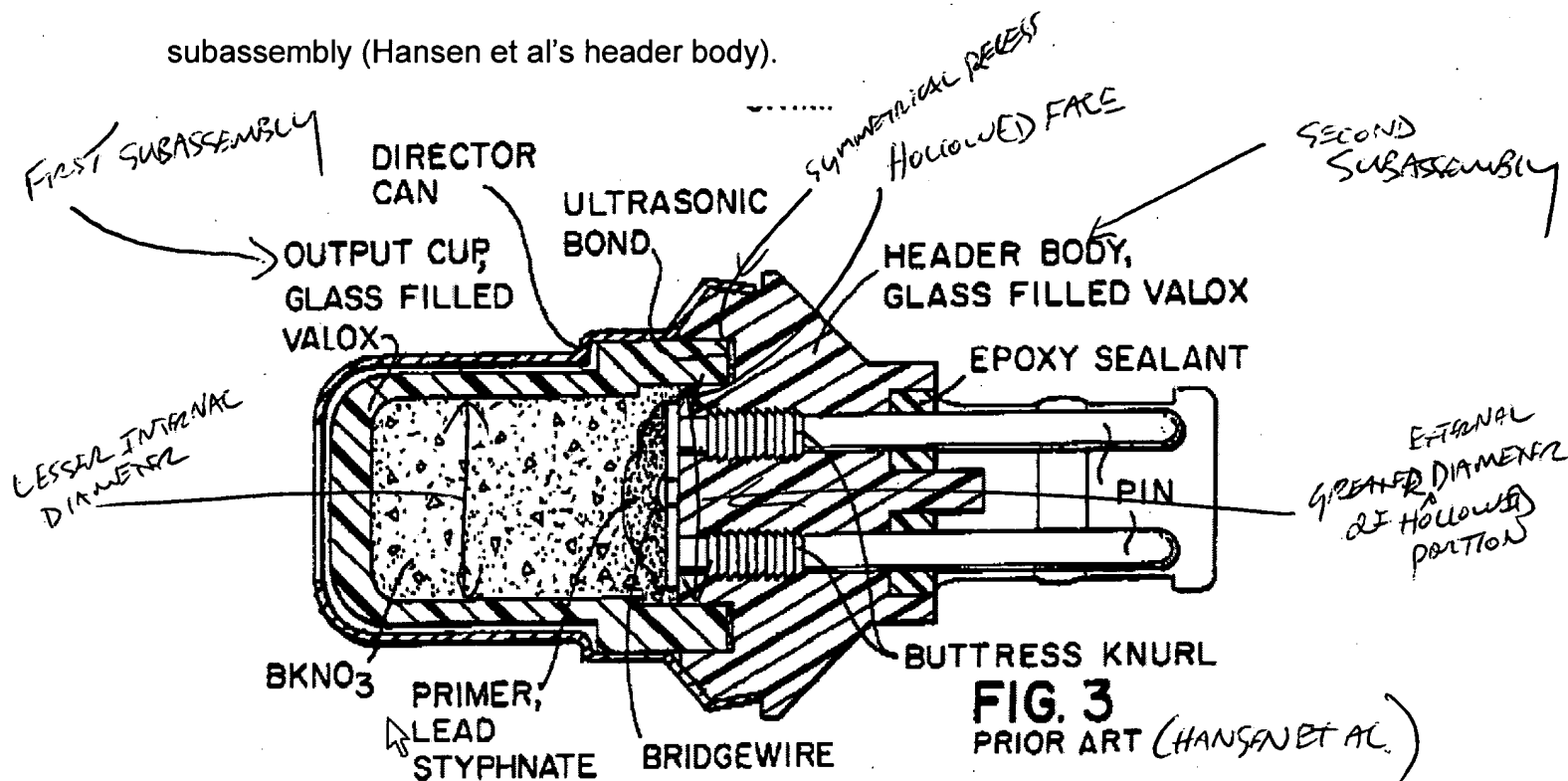
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1-3, 5, 8-13, and 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Hansen et al. (US 5,932,832). **The following rejections are made in as much as the claims can be understood in view of the indefiniteness discussed above.**

Regarding claim 1, Hansen et al. disclose a prior art initiator (fig. 3) comprising a first subassembly (Hansen et al's output cup) made of plastic (VALOX - a thermoplastic polyester resin based on polybutylene terephthalate (PBT) polymers), the first subassembly inherently being made in a single part and containing a plastic wall integral with a bottom and having a face so as form an enclosure, the enclosure containing a pyrotechnic charge; a second subassembly (Hansen et al's header body) made of plastic (VALOX) and traversed by two pins, the pins connected by an electric bridge on the face of the second subassembly, the face being hollowed symmetrically, the first and second assemblies sealed by an ultrasonic bond inherently a hermetic ultrasonic weld; the internal diameter of the first subassembly (Hansen et al's output

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cup) being smaller than the external diameter of the hollowed portion of the second subassembly (Hansen et al's header body).



Regarding claims 2 and 11, see the marked up copy of Hansen et al's Fig. 3.

Regarding claim 3, 5, 17, the thermoplastic polyester resin of the first and second subassemblies of Hansen et al.'s initiator is made of VALOX - a thermoplastic polyester resin based on polybutylene terephthalate which inherently comprises a material with a low regain of humidity.

Regarding claims 8, 18 and 19, Hansen et al's second subassembly is inherently molded over the pins.

Regarding claim 9 and 10, Hansen et al's pins comprise electrodes that are scored (buttress knurl - fig. 3 above).

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Regarding claim 12 and 13, the ultrasonic bond between Hansen et al's first and second assemblies is inherently capable of being sheared apart or semi-sheared apart.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4, 6, 7, 14-16 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hansen et al. (US 5,932,832). **The following rejections are made in as much as the claims can be understood in view of the indefiniteness discussed above.**

Regarding claims 4, 6 and 7, Hansen et al. first and second assemblies comprise VALOX which is a thermoplastic polyester resin based on polybutylene terephthalate. Hansen et al. do not specifically disclose that the plastic can in the alternative comprise a polyketone, a polyamide, or the polyamide PA 6.12. The examiner takes official notice that polyketones and polyamides are well known polymers that are used in a myriad of different applications that require a durable and moisture resistant polymer. In view of this official notice, it would have been obvious to one of ordinary skill in the art at the time that the invention was made to select either a polyketone or a polyamide as an alternative to Hansen et al's VALOX, the selection of such materials comprising nothing more than the substitution of an equivalent polymer as the constituent material of the initiator subassemblies.

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Regarding claim 14, Hansen et al. disclose a prior art initiator (fig. 3) as discussed above with regard to claim 1. The examiner takes official notice that dry loading the pyrotechnic charge was a well-known and efficient method of loading a pyrotechnic charge in the prior art initiator. In view of this official notice, it would have been obvious to one of ordinary skill in the art at the time the invention was made to dry load the pyrotechnic in the Hansen et al. initiator of Fig. 3, as to do so would only involve a well known efficient method of loading an initiator.

Regarding claim 15, Hansen et al's lead styphnate is a primary explosive while  $\text{BKNO}_3$  is a secondary explosive.

Regarding claim 16, the examiner takes official notice that it was well known in the prior art at the time of invention to compress primary explosives with a lesser compaction pressure than secondary explosives so as to decrease the possibility of an unplanned explosion. In view of this official notice, it would have been obvious to one of ordinary skill in the art at the time of invention to compress Hansen et al's lead styphnate with a lesser compaction pressure, such as less than 120 bars, compared to the pressure applied to compress the  $\text{BKNO}_3$ , such as less 150 bars, so as to decrease the risk of an inadvertent explosion, the precise compaction pressures selected based on a non-burdensome amount of experimentation, well within the reach of one of ordinary skill in the art at the time the invention was made.

Regarding claim 20, Hansen et al's second subassembly is inherently molded over the pins.

### ***Conclusion***



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9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See the art listed on PTO 892 accompanying this action.
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Bergin whose telephone number is 571-272-6872. The examiner can normally be reached on Monday - Wednesday and Friday, 8.30 - 5.30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 571-272-6873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'J. Bergin', followed by a long horizontal line extending to the right.

James S. Bergin